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***Thalloloma ochroleucum* (Graphidaceae),
a new species from Guizhou, China**ZE-FENG JIA ^{1*} & KLAUS KALB ^{2,3}¹ College of Life Sciences, Liaocheng University, Liaocheng, 252059, Shandong Province, China² Lichenologisches Institut Neumarkt, Im Tal 12, D-92318 Neumarkt, Germany³ University of Regensburg, Institute for Botany,

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ABSTRACT — *Thalloloma ochroleucum* is described as a new species from Guizhou province in southern China. It is characterized by subimmersed lirellae, open discs with pale orange pruina, transversely septate hyaline ascospores, and the presence of norstictic acid.

KEY WORDS — taxonomy, lichenized fungi, *Ostropales*, *Ostropomycetidae*

Introduction

In recent years, many systematic and taxonomic changes have occurred in the *Graphidaceae* (*Ostropales*, *Ostropomycetidae*). Staiger (2002) revised the spore-based generic system established by Müller Argoviensis (1880, 1882) in the family and reintroduced several genera with revised concepts, including *Thalloloma* Trevis. *Thalloloma* is characterized by a corticolous thallus, lirelliform apothecia, uncarbonised proper exciples, and hyaline ascospores (septate with lenticular locules or muriform), reacting I+ blue. *Thalloloma ochroleucum* is described here as new to science.

Materials & methods

The specimens are deposited in the Herbarium Mycologicum Academiae Sinicae – Lichenes (HMAS-L). A dissecting microscope (TECH XTS-30D with CANON 600D camera) and a light microscope (OLYMPUS SZ-51) were used for the morphological and anatomical studies. Measurements and illustrations were taken from manual cross-sections of fruit bodies in tap water. Amyloidity of the ascospores was tested using Lugol's solution. Spot tests with KOH (20%) were performed on the thallus surface and on thin thallus sections. The lichen substances were detected and identified by thin-layer chromatography (TLC) (Culberson & Kristensson 1970, Culberson 1972, Orange et al. 2001).

Taxonomy

Thalloloma ochroleucum Z.F. Jia & Kalb, sp. nov.

PL. 1

FUNGAL NAME FN570059

Differs from *Thalloloma deplanatum* by its production of norstictic acid and its longer ascospores.

TYPE: China, Guizhou province, Tongren City, Mt. Fanjing, Daling, 27°55'N 108°41'E, alt. 1800 m, on bark of *Rhododendron rufum* Batalin (*Ericaceae*), 22.VIII. 1963. coll. J.C. Wei 0474 (Holotype, HMAS-L 047744).

ETYMOLOGY: Latin *ochroleucus*, a reference to the ochre-colored disc.

Thallus corticolous, crustose, pale white to yellowish, thin, smooth, tightly attached to the substratum, lacking isidia and soredia. Apothecia lirelliform, numerous, short to elongate, open, simple, subimmersed, 0.8–2.5 mm long, 0.3–0.6 mm wide, with thick thalline margin, not striate, scattered over the thallus, disc opened with orange pruina. Proper exciple inconspicuous, uncarbonised. Epithecium 8–10 μm thick, brown. Hymenium colorless, not inspersed, 150–180 μm high, I–. Hypothecium brownish, 5–15 μm high. Paraphyses simple, 1–2 μm wide, apices becoming broad, brownish. Asci

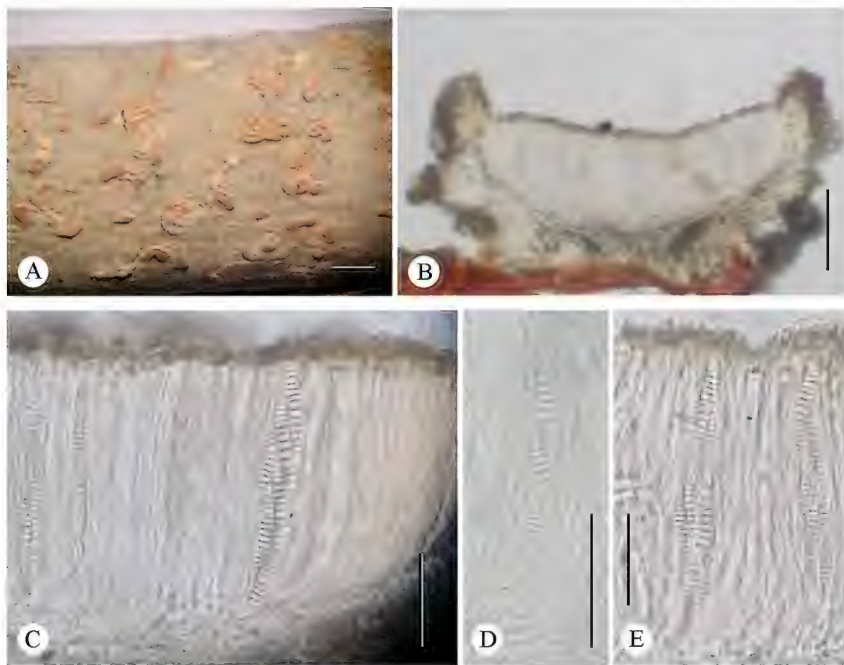


PLATE 1. *Thalloloma ochroleucum* (holotype). A. Thallus on bark. B. Cross section of an apothecium. C. Asci containing ascospores. D. Immature ascospores in an ascus. E. Mature ascospores in asci. Scales: A = 1 mm; B = 100 μm ; C, D = 50 μm .

cylindrical to clavate, $95\text{--}110 \times 15\text{--}20\ \mu\text{m}$, 8-spored. Ascospores hyaline, narrowly ellipsoidal, transversely septate, 15–18-locular, $40\text{--}80 \times 7.5\text{--}12\ \mu\text{m}$, I+ bluish.

CHEMISTRY: C–, K+ yellow to brown, P+ yellow; norstictic acid detected by TLC.

DISTRIBUTION & ECOLOGY: *Thalloloma ochroleucum* is present in Mt. Fanjing (Guizhou province) within a subtropical rainforest in southern China. The species was found on bark of *Rhododendron rufum* accompanied by *Graphis* spp. such as *G. hossei* Vain., *G. vittata* Müll. Arg., and *G. librata* C. Knight.

ADDITIONAL SPECIMEN EXAMINED: CHINA, GUIZHOU PROVINCE, Tongren City, Mt. Fanjing, Zhangjia Dam, alt. 1000 m, on bark, 16.VIII. 1963. coll. J.C. Wei 0204 (HMAS-L 047741).

COMMENTS: *Thalloloma ochroleucum* resembles *T. deplanatum* (Nyl.) Staiger, which also has transversely septate ascospores and open discs, but differs by its shorter thick-walled ascospores, connective paraphyses, and absence of norstictic acid (Staiger 2002). The new species is readily distinguished from *T. microsporum* Z.F. Jia & J.C. Wei described from China, which has red apothecia and smaller ascospores ($15.5\text{--}20 \times 5.5\text{--}8.0\ \mu\text{m}$; Jia & Wei 2009).

Acknowledgments

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